Navigate to the station using the Garmin. Complete I-III *BEFORE ENTERING THE WATER.*

****ALL SAMPLERS MUST WEAR GLOVES** **RINSE EQUIPMENT with AMBIENT****

****COLLECT AIR DEP at FIRST STATION of DAY** **FILL OUT DATASHEET for REJECTED SITE****

****SAVE ALL TRASH in LABELED SEALED BAGS** ***DON'T TRAMPLE WHERE YOU SAMPLE!****

I. Take photos of Station ID sheet, ground, and panorama. Verify photos and record #s (verify/#).

II. SURFACE WATER SAMPLES (all samples collected ~6" below surface)

A. Vacuum pumped samples

-Place new nitex screen on sampler intake, save bag and label with Station ID.

-Rinse inserts w/ ambient. Place 1 L poly in chamber, pump 3x ¼ full, rinse. Pump full. Use in B.

-Put on mercury sampling gloves with partner, sample using clean hands/dirty hands method:

DIRTY: Replace chamber insert. Open outer bag of mercury bottle.

CLEAN: Open inner bag. DIRTY: Label bottle with Station ID (*without touching bottle*).

CLEAN: Place bottle in chamber, *then* uncap (hold cap). DIRTY: Pump to overflowing.

CLEAN: Cap bottle, remove from chamber, place in inner bag and seal it.

DIRTY: Seal outer bag and place in black plastic bag inside Hg cooler (***NO*** ICE).

-Remove screen from intake, fold, place back in original, labeled bag. Drain chamber and tubing.

B. Screened water samples

With 1 L poly of screened water (from A), **rinse each of the following bottles 3X** and:

- **BLUE** (TN/TP, TC) 125 mL poly (n=2) fill at least to neck (**ON ICE**)
- **GREEN** (SO_4/Cl) 125 mL poly fill at least to neck (**ON ICE**)
- **YELLOW** (DOM) 60 mL poly fill at least to neck (**ON ICE**)

Filter the screened water for the following samples as indicated:

- PINK (nutrients) 60 mL poly
  - use pre-loaded **NYLON** syringe filter OR place **NYLON** filter in swinnex holder (rinse in ambient and purge with new filter)
  - use 60 mL syringe, remove plunger, and attach filter, fill syringe with screened water replace plunger, rinse bottle 3X; then fill bottle to neck. Place bottle **ON ICE**
- **ORANGE** (DOC) 40 mL VOA
  - use the same 60 mL syringe (refill syringe barrel if necessary)
  - attach **POLYSULFONE** (PSU) filter to syringe, replace plunger
  - filter into **pre-preserved** bottle (DO NOT RINSE), fill to top (**NO HEADSPACE, ON ICE**)

C. Chlorophyll sample

-Rinse syringe. Draw water from 6" below surface into syringe. Plunge out air/water to 140 mL.

-Attach assembly with pre-loaded GFF filter and filter as much as possible; record volume filtered.

-Remove assembly, draw ~50 mL air, reattach assembly, plunge to remove all excess water.

-Remove filter, fold twice, place in microcentrifuge tube, and submerge filter with 90% acetone.

-Label tube with Station ID and place in 500 mL dark brown plastic bottle **ON ICE**.

D. Bottom water sample

-Place screen/filter/bag or sock. Attach short or long tubing to top end of sampler.

-Place sampler on surface of sediment, use 60 mL SIDE syringe to remove air from tube.

-Fill pre-preserved 60 mL syringe (**PURPLE**) with water from sediment surface, close valve.

-Check syringe to ensure NO AIR BUBBLES, and place syringe back in case (***NO*** ICE).

-Place screen/sock in labeled trash bag; drain tubing.

E. Check samples on ice

-**BLUE**, **GREEN**, **YELLOW**, **PINK**, **ORANGE** bottles, brown chlorophyll bottle, labeled trash bag.

III. Deploy YSI sonde at 6", log and record readings (can be done simultaneously with water collection). Obtain ORP reading at sediment surface, after lowering gently so cage rests upright on bottom.

IV. At 3 locations, measure water depth to soil (using **blue** rod first), then total depth to bedrock.

V. PERIPHYTON

A. Percent cover and composition

-Place ¼ m^2 PVC quadrat in a random, representative area, then estimate % cover using charts.
-Take polarized photo of quadrat from close to nadir as possible, still including frame (verify/#).
-Record which of the 5 categories of periphyton are present (circle Y or N for each one).

B. Biovolume measurement (A Star ONLY)

-Harvest all periphyton within quadrat, excluding benthic mats:
♦ **PF** (floating mat): skim off mat layer floating on water surface; strip from vegetation or wood
♦ **PE** (epiphytic "sweaters"): strip off stems of submerged plants or wood
-Use spare tub to rinse and dislodge PE from plants if needed; strain and scrape off sieve.
-Measure volume using appropriate cylinder(s); use perforated cylinder to drain large mats.
-Record total volume; place all measured PF+PE in one tub and mix to homogenize.

C. Sample collection

-**A Star**: Subsample homogenized biovolume by filling cup with BLUE lid to 120 mL line, label cup, discard remainder. **Jet Ranger**: harvest periphyton to fill cup from quadrat (as in B above).
-If total volume from quadrat <120 mL, add periphyton from surrounding area to attain 120 mL.

VI. LOCATION

-Set up Trimble and start logging coordinates. Collect soil cores around Trimble (see below).
-Log for 20 minutes (minimum of 36 readings), record coordinates on data sheet.

VII. SOIL AND FLOC ** Record measurements in decimal centimeters.**

A. Collect and measure cores

-Lower core to soil surface, then slowly insert to 10 cm (using ruler/marker) while turning handle.
-DO NOT STOMP on core top (to minimize compaction and ensure no loss of floc).
-Seal and remove corer, ensure soil depth = 10 cm; if not, repeat until 10 cm unless shallow soil.
-Take photo of intact core, with wooden ruler, against white background. Record core thickness.
-Verify photo to ensure no backlighting of core and that core and ruler are in focus (verify/#).
-Note soil type(s) on data sheet; take photos of subsequent cores only if different than the first.

B. Measure and collect floc and/or benthic periphyton

- Measure and record floc and/or periphyton thickness. Push core up to remove overlying water.
-Pour floc into storemore; combine all 3 samples (use 2nd container or bucket if necessary).
-If benthic periphyton mat is present, remove and place in sample cup with WHITE lid. Label cup.

C. Collect soil

-Combine all 3 cores (regardless of soil type) in pre-weighed plastic bucket, label and seal.
-Clean soil core equipment with ambient water and brushes.

VIII. MOSQUITO FISH

-Collect 15 mosquito fish (or as many as possible with reasonable time and effort).
-Place in labeled bag and add water so fish are suspended; evacuate air when sealing bag.
-Verify species and place bag **ON ICE**.

IX. AERIAL PHOTOGRAPH

-When leaving, take aerial photo of the site from 100-200 feet (verify/#). Record at next station.

Call in Sample Times every day *(by 2:00 pm)***